

CLAIMS

1. A minibody that recognizes a human leukocyte antigen (HLA).
- 5 2. The minibody of claim 1, wherein the HLA is an HLA class I.
3. The minibody of claim 2, wherein the HLA class I is an HLA-A.
4. A minibody derived from a 2D7 antibody.
- 10 5. The minibody of any one of claims 1 to 4, wherein the minibody is a diabody.
6. A minibody of any one of (a) to (d):
 - (a) a minibody comprising the amino acid sequence of SEQ ID NO: 6;
 - 15 (b) a minibody functionally equivalent to the minibody of (a), and comprising an amino acid sequence with a substitution, insertion, deletion and/or addition of one or more amino acids in the amino acid sequence of SEQ ID NO: 6;
 - (c) a minibody comprising the amino acid sequences of CDRs of SEQ ID NOs: 2 and 4; and
 - 20 (d) a minibody functionally equivalent to the minibody of (c), and comprising an amino acid sequence with a substitution, insertion, deletion and/or addition of one or more amino acids in the amino acid sequence of the CDRs of SEQ ID NOs: 2 and 4.
7. A method for producing an HLA-recognizing antibody having increased activity by
25 converting the HLA-recognizing antibody to a low-molecular-weight antibody.
8. The method of claim 7, wherein the HLA is an HLA class I.
9. The method of claim 8, wherein the HLA class I is an HLA-A.
- 30 10. A method for producing a 2D7 antibody having increased activity by converting the 2D7 antibody to a low-molecular-weight antibody.
11. The method of any one of claims 7 to 10, wherein the conversion step comprises
35 conversion to a diabody.

12. The method of any one of claims 7 to 11, wherein the activity is a cell death-inducing activity or a cell growth-suppressing activity.

13. A cell death-inducing agent, comprising as an active ingredient the minibody of any one of claims 1 to 6, the minibody produced by the method of any one of claims 7 to 12, or a 2D7 antibody.

14. The cell death-inducing agent of claim 13 that induces cell death of a B cell or T cell.

15. The cell death-inducing agent of claim 14, wherein the B cell or T cell is an activated B cell or activated T cell.

16. A cell growth-suppressing agent comprising as an active ingredient the minibody of any one of claims 1 to 6, the minibody produced by the method of any one of claims 7 to 12, or a 2D7 antibody.

17. An antitumor agent comprising as an active ingredient the minibody of any one of claims 1 to 6, the minibody produced by the method of any one of claims 7 to 12, or a 2D7 antibody.

18. The antitumor agent of claim 17, wherein the tumor is a blood tumor.

19. A therapeutic agent for an autoimmune disease, wherein the therapeutic agent comprises as an active ingredient the minibody of any one of claims 1 to 6, the minibody produced by the method of any one of claims 7 to 12, or a 2D7 antibody.

20. The cell death-inducing agent of any one of claims 13 to 15, wherein the antibody is a diabody.

21. The cell growth-suppressing agent of claim 16, wherein the antibody is a diabody.

22. The antitumor agent of claim 17 or 18, wherein the antibody is a diabody.

23. The therapeutic agent for autoimmune disease of claim 19, wherein the antibody is a diabody.